



Penrith Waste Water Treatment Works, Admin Building, Penrith, Cumbria

Building Investigation



Oxford Archaeology North

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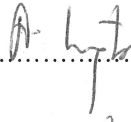
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Prepared by: Karl Taylor
Position: Project Supervisor
Date: December 2012

Checked by: Alan Lupton
Position: Operations Manager
Date: December 2012

Signed.....

Approved by: Alan Lupton
Position: Operations Manager
Date: December 2012

Signed.....

Oxford Archaeology North

Mill 3
Moor Lane Mills
Lancaster
LA1 1QD
t: (0044) 01524 541000
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

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Janus House
Osney Mead
Oxford
OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

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SUMMARY

United Utilities, have requested Oxford Archaeology North (OA North) undertake an assessment of a small building known as the Admin Building, at the Penrith Waste Water Treatment Works, Penrith, Cumbria. The building is situated at the east side of the WwTW site which is located approximately 4.5km to the south-east of Penrith town centre, north of the A66 Penrith to Scotch Corner trunk road.

A verbal brief recommending an English Heritage Level II (English Heritage 2006), investigation of the building was provided by Cumbria Historic Environment Service. The survey comprised a descriptive internal and external record, combined with drawings and a photographic record. The work was carried out over two days on 26th and 27th November 2012.

The investigation has revealed the building is of a single main phase of construction with some later, minor alterations carried out in the 1970s as evidenced from plans supplied by the client. The earliest available mapping that clearly shows the location of the building dates to 1920, which is consistent with both the exterior and interior appearance and construction details. The building is constructed from composite walls of stretcher bond internal brick with an external, squared, random red sandstone skin. All the external details, such as quoins, sills and copings, are of the same sandstone. The roof is pitched and of slate laid in diminishing courses with terracotta ridges and projecting eaves.

There are four internal rooms, the internal appearance of which appears to be largely unchanged from the original date of construction, especially Rooms **2** and **3**. Rooms **1** and **1a** are the most altered with the insertion of a partition wall, suspended asbestos ceiling, modern floor and modern kitchen and work units. Of particular architectural interest are the original cast iron staircase in **Room 2** and an unaltered fireplace with tiled hearth in **Room 3**.

The building appears to have remained largely structurally intact since its construction with visible evidence only for minor alterations and changes. It is a good surviving example of an early-twentieth century municipal works building.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Michael Barton of United Utilities for commissioning the project. Thanks are also due to the on-site staff of KMI Water and United Utilities for their assistance.

The building recording was undertaken by Karl Taylor. The report and the drawings were produced by Karl Taylor. The project was managed by Alan Lupton, who also edited the report.

INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 United Utilities, have requested Oxford Archaeology North (OA North) undertake an building survey/investigation of a small structure known as the 'Admin Building', which is situated within the site of the Penrith Waste Water Treatment Works (WwTW), Whinfell Holme, Penrith, Cumbria CA11 8SR. The building is scheduled for demolition as part of the upgrading of the works.
- 1.1.2 This report sets out the results of the investigation in the form of a short document outlining the findings, followed by a discussion of the significance of the results.

1.2 LOCATION AND GEOLOGY

- 1.2.1 The building is situated at the east side of the WwTW site (Fig 1), which is located approximately 4.5km to the south-east of Penrith town centre, north of the A66 Penrith to Scotch Corner trunk road (NGR NY 54654 29509). The site is accessed via a short track leading from the main road.
- 1.2.2 Penrith lies on the south-western edge of the Eden Valley, where most of the area is underlain by sandstones and mudstones of Permo-Triassic age. The superficial deposits consist of Quaternary alluvium including clay, silt sands, and gravels and (http://mapapps.bgs.ac.uk/geologyofbritain/home.html?location=penrith).

2 METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A verbal brief recommending an English Heritage Level II investigation of the building was provided by Cumbria Historic Environment Service (CHES). The methodology followed the specification as published by English Heritage (English Heritage 2006). The work was consistent with the relevant standards and procedures of the Institute for Archaeologists (IfA 2008), and generally accepted best practice.

2.2 BUILDING INVESTIGATION

2.2.1 The Admin Building was investigated to a Level II standard survey (English Heritage 2006), which comprised a descriptive internal and external record, combined with drawings and a photographic record.

2.2.2 **Descriptive Record:** written records using OA North *pro forma* record sheets were made of all principal building elements, both internal and external, as well as any features of historical or architectural significance. Particular attention was also paid to the relationship between areas of the building where its development and any alterations could be observed. These records are essentially descriptive, although interpretation is carried out on site as required.

2.2.3 **Site drawings:** drawings supplied in both .dwg and .pdf format were used as a basis for the survey. The drawings were enhanced on site, which was carried out by manually annotating the drawings with measured architectural and historical detail. The site drawings were then digitised using an industry standard CAD package.

2.2.4 **Photographs:** photographs were taken with high-resolution full frame (12.8mp 35mm) and cropped frame (12.6mp APS-C) DSLR cameras using a variety of lenses including shift lenses. The photographic archive consists of general images of the building, both internal and external, and detailed internal and external scaled coverage of architectural and decorative features and/or structural detail. High level photographs using a pole cam with an APS-C DSLR were also taken to provide views of the roof and upper parts of the building. All images were captured in both RAW (CR2) and JPEG format.

2.3 ARCHIVE

2.3.1 A full professional archive has been compiled in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited with the Carlisle Record Office on completion of the project, and a paper copy will be sent to the Cumbria Historic Environment Record, Kendal.

3 BUILDING INVESTIGATION RESULTS

3.1 INTRODUCTION

3.1.1 The following section provides a summary of the results of the building investigation. The work was carried out over two days on 26th and 27th November 2012. The weather was overcast with rain showers on both days.

3.2 BUILDING LAYOUT AND CONSTRUCTION DETAILS

3.2.1 The building is L-shaped and occupies a sloping site on the edge of a flat area containing trickler tanks and other machinery (Plates 1 and 2). It measures 8.80m along the long axis and 5.85m along the short axis. The long axis is aligned almost due east west. The building has two floors, the main or upper floor (Fig 2) together with a basement or lower floor (Fig 3). Three rooms are contained within the upper floor including a 'mess room' (Rooms *1* and *1a*) and stair/equipment/WC room (Room *2*). The basement/lower floor has a single room (Room *3*). All the rooms within the building have both internal and external access. At the time of the survey there was no access to the roof space above Rooms *1* and *1a*.



Plate 1: General view of the admin building facing south-west



Plate 2: General view of the admin building facing north-west

- 3.2.2 The building is constructed from composite walls of stretcher bond internal brick with an external, squared, random red sandstone skin (Plates 1 and 2). The mortar, both internally and externally, is a mixture of lime and cement and is degraded in places. All the external details, such as quoins, sills and copings are of the same sandstone. The roof is pitched and of slate laid in diminishing courses with terracotta ridges and projecting eaves. The valleys and other joints are all lead. All the windows and doors are timber and the rain water goods are a mixture of plastic and iron. The doors are all of the same design with diagonally planked panels and chamfered lock panels, rails and stiles. Some concrete paths are present and the copings on the walls of a flight steps on the south side of the building are of concrete. A second flight of steps of galvanised steel is attached to the east elevation.
- 3.2.3 All of the internal faces of the walls are of varying colours of brick. The upper floor walls are of matt yellow brick with a green and yellow glazed band on the upper part of the wall and four courses of glazed burgundy coloured bricks at the wall base. The walls in Rooms **1** and **1a** are painted over. There is a plasterboard partition wall separating Rooms **1** and **1a** and the ceilings in these rooms are of asbestos suspended tiles. The roof is visible in Room **2** and is of dark varnished timber planking (Plate 3). The basement walls in Room **3** are of yellow, green and brown glazed brick. The floors in Rooms **1** and **1a** are of modern tiles and the floors in Rooms **2** and **3** are of concrete. The stairs leading from Room **2** to the basement are of cast iron, while all the other fixtures and fittings are of modern appearance.

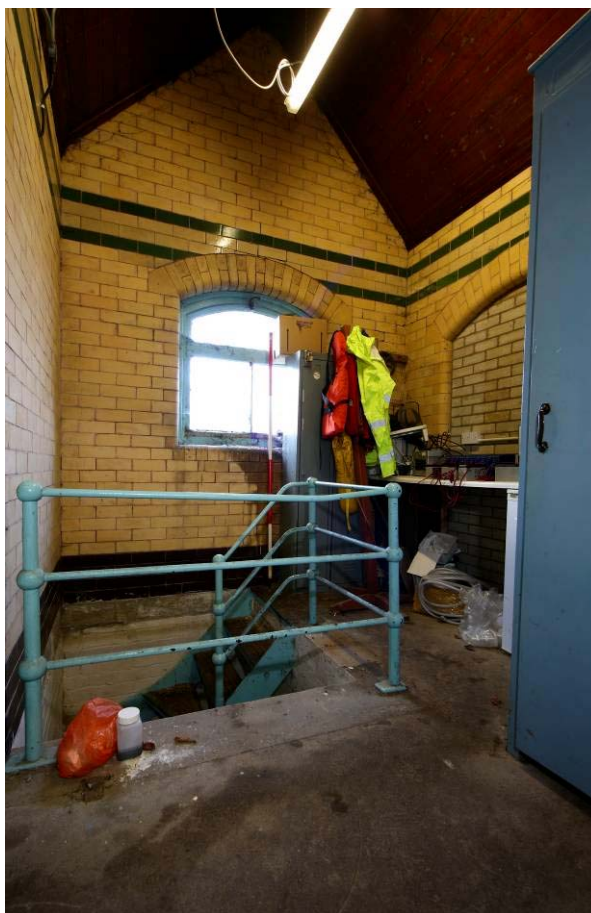


Plate 3: General view of Room 2 facing north-west

3.3 EXTERNAL DETAIL

- 3.3.1 All the elevations of the building have the same basic constructional appearance and details. All are of coursed, squared, random-sandstone of varying sizes and course heights. All the quoins, window and door surrounds exhibit rock-faced rustication with long-and-short work.
- 3.3.2 The north-facing elevation comprises the gable of Room 1, and the north wall of Room 2 (Plate 4). There is a single door that is accessible via sandstone steps, and a window, together with a louvered opening above the window in the gable. The window is semi-circular and has a slightly projecting sandstone sill. A blocked door is visible at the west side of the elevation that once allowed access into Room 2 (also visible internally, see *Section 3.3.4* and Plate 3). Both the remaining and blocked doors have segmental arches. Each slope of the gable has a flat coping with skew corbels at the base. Two ashlar bands are present in the upper section of the gable.
- 3.3.3 The south-facing elevation exhibits the same general outline detail as described for the north-facing elevation, but is of two storeys (Plate 5) and the west side (the south wall of Room 2) is set back by approximately 2.26m. The east side forms the south gable of Room 1a. There is a large window on the upper floor, which is identical to that on the north-facing elevation, together

with a smaller window and a double doorway at basement level. The smaller window and door both have segmental arches. A plastic down pipe is present. The west side of the elevation is accessed via a flight of sandstone steps flanked by steel railings atop low stone walls with concrete copings (Plate 6).



Plate 4: The north-facing elevation facing south



Plate 5: The south-facing elevation facing north

- 3.3.4 The west side of the south-facing elevation has a single doorway of identical appearance to that on the north-facing elevation. There is also a single cast iron down pipe with a moulded hopper and decorative brackets (Plate 6). There is also a surviving cast iron gutter, to which are attached wrought iron scrolls (Plate 7).



Plate 6: View of the flight of steps leading to the west part of the south-facing elevation



Plate 7: Detail view of the hopper and decorative brackets on the west side of the south-facing elevation



Plate 8: Detail view of a wrought iron scroll attached to the cast iron gutter on the west-side of the south-facing elevation.

- 3.3.5 The west-facing elevation is on two levels and extends down to the basement on the south side. It is, again, stylistically the same as the other elevations. There is a window with segmental arch situated in the centre of the upper part of the elevation, and a smaller (identical) window in the lower part of the elevation on the south side. There is a single plastic gutter and downpipe. Close to ground level on the north side of the elevation is a blocked opening which has what appears to be a recent sandstone lintel. This appears to be associated with a belowground intake system (Fig 3). An Ordnance Survey benchmark is carved into one of the quoins on the south side of the elevation. A flight of galvanised steel steps obscures part of the elevation.
- 3.3.6 The east-facing elevation forms the gable of Room 2 and is similar in appearance to the gables already described. There is a single window located in the centre of the elevation that is identical to that in the south-facing elevation. The upper part of the gable differs however, in that the ashlar bands observed in the other gables are not present. Two white panels obscure much of the lower part of the elevation.
- 3.3.7 The roof of the building is of two perpendicular pitched sections. Each of the gable copings projects above the roofline to form low parapets. The eaves are open and individual rafters are visible. There is a single chimneystack of the same construction and fabric as the rest of the building. It has a sandstone oversailing course and sandstone shoulders.

3.4 INTERNAL DETAIL

- 3.4.1 **Room 1:** the current main access to the building is via the doorway in the north elevation that leads straight in to Room 1 (Fig 2). This room has been divided to create an additional smaller room (Room 1a). These two rooms were part of a larger room that occupied the whole of the east side of the upper

floor (Fig 2). At the time of the survey, the room was being used as an administration/mess room and modern kitchen units have been installed. The walls, except the south wall, which is a plasterboard partition wall, are all of painted stretcher bond bricks measuring 230mm by 630mm (9 inches by 21/2 inches). The ceiling is of recent origin and is of suspended construction with asbestos tiles. The floor is laid down to small square ceramic tiles. All of the fixtures and fittings in the room are of recent origin and no obviously earlier fittings are present.

- 3.4.2 There are two window apertures in the room, both of which have bull-nosed reveals and segmental arches. The window frames are top-hung casements of timber construction and may possibly date to the original phase of construction. Access to Room *1a* and Room *2* is available, the doorway into Room *2* being of diagonal plank door of the same construction as the external doors.
- 3.4.3 **Room 1a:** this room is of the same general appearance to Room *1*, originally being part of the same room. This room was being used as a laboratory/testing room at the time of the survey and a modern bench was present on the south wall. The walls, ceiling and floor were all identical to those described for Room *1*. There is a single window in the south wall that is identical to that in the north wall of Room *1*. The west wall of this room houses a shallow chimney breast within which is a small boarded-up fireplace. This fireplace is identical to that in Room *3* (see *Section 3.3.8*). There are no other features of interest in this room.
- 3.4.4 **Room 2:** access to the basement from Room *1* is available via this room. The room is also accessible externally via a door in the south elevation and previously via a now blocked wide doorway in the north elevation. The blocked door is of similar dimensions to the wide door in Room *3*, and presumably contained the same style of door. The room is quite small but contains the staircase down to the basement, a WC, and lockers and a worktop (Plate 3).
- 3.4.5 The walls are of all-brick construction of the same bond and size as those in Room *1* (*Section 3.2.1*). They are unpainted however, and comprise both dull yellow refractory-type bricks and glazed bricks of three colours. The bulk of the walls are of the dull yellow brick, whilst the bottom four courses are of deep burgundy glazed brick. Above the windows, a two-course band of yellow glazed bricks is visible flanked by single-courses of green glazed bricks (Plate 3). The room is open, right up into the roof-space, which is covered with dark matchboard. Nothing of the roof structure is visible. Room *1* may originally also have been similarly open but there was no access above the ceiling to confirm this.
- 3.4.6 The floor of this room is laid down to concrete which is approximately 0.27m thick. A cast iron beam is visible spanning the stairwell. Evidence from the ceiling in Room *3* suggests that the whole of the floor is concrete. The WC in this room comprises a simple wooden cubicle and the toilet has a high level cistern. None of this appears to be part of the original fixtures and fittings. The window in this room is of identical appearance to those in Rooms *1* and *1a*.

- 3.4.7 The staircase is of cast iron construction with an iron handrail. It is of quarter-turn construction with six straight treads and four winders (Plate 9). Each tread has a grip pattern consisting of perforated holes and a square, raised grid. The stairwell brick walls have been painted white.



Plate 9: General appearance of the staircase.

- 3.4.8 **Room 3:** descent of the staircase leads to Room 3 that was being used as a general storage area at the time of the survey (Plate 10). All the brick used in the wall construction are glazed, using the same colours noted in Room 2. There is a dado band with two courses of green glazed brick, below which are 11 courses of dark burgundy coloured brick. Above the dado band are 13 courses of yellow glazed brick. There is a straight-run plaster cornice running to the whole perimeter of the room. There are two window openings and a wide door, all of which are of the same appearance as those already described. The wide door opening is of the same dimensions as the blocked door in Room 2.
- 3.4.9 Perhaps the most interesting feature in this room is the fireplace set within the shallow chimney breast on the west wall (Plate 11). It measures some 0.63m wide by 0.85m high and 0.23m deep. It has a segmental arch of yellow glazed bricks. There is a tiled hearth present that measures 0.88m by 0.55m, and comprises small, red, rectangular tiles with green border tiles (Plate 12). Above the fireplace, set into the chimney breast is a cast iron vent, which exhibits decorative motifs in the form of circular roundels with clover leaves and foliate elements. The boarded fireplace in Room 1a is probably of the same appearance as that described here.



Plate 10: General view of Room 3 facing southeast



Plate 11: View of the fireplace in Room 3

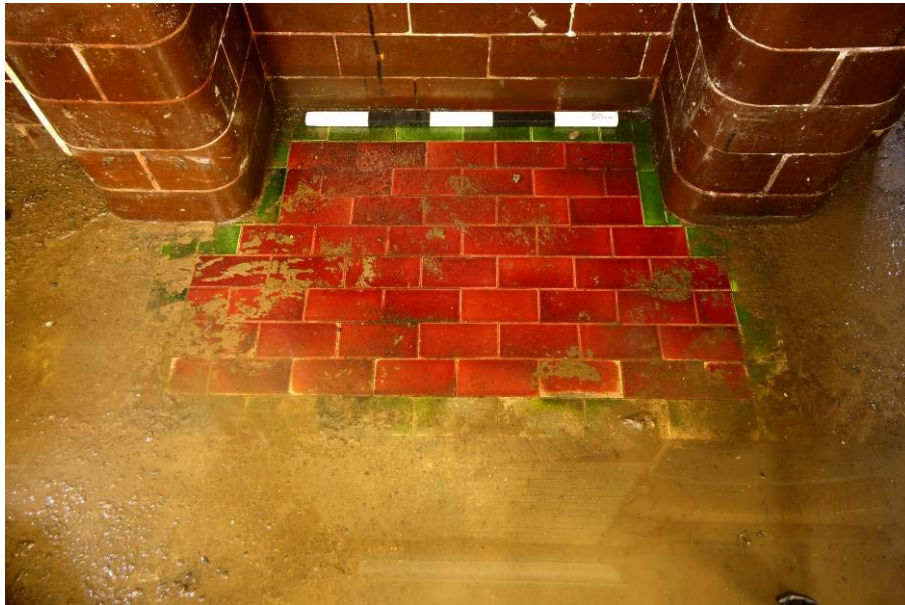


Plate 12: The hearth of the fireplace in Room 3

3.4.10 The plans supplied by the client illustrate a narrow passage behind the north wall of this room (Fig 3). Its is described as an ‘existing intake’ and appears to be part of the workings of the waste water treatment works. There was no access to this area and it remains un-inspected. There is a blocked aperture on the east-facing elevation that probably relates to this.

4 DISCUSSION

4.1 INTRODUCTION

4.1.1 The building investigation has revealed the small building known as the 'Admin Building' is of a single main phase of construction with some later, minor alterations. PDF copies of plans supplied by the client show that the building was renovated in the 1970s during which time most of the visible alterations probably occurred. The earliest available mapping that shows the location of the treatment works, including the building, dates to 1920. The building is not illustrated on the 1900 Ordnance Survey map or any earlier mapping.

4.1 BUILDING DETAILS

4.1.1 The main fabric of the building, including all the internal and external solid walls is of a single phase. There is no evidence for any additions or removal of any of the solid fabric. The roof, except for the ridge tiles, also appears to be part of the initial phase of construction. All of the doors appear to belong to the initial phase and all of the window frames are probably contemporaneous. Some decorative elements on the exterior of the building, such as the brackets of the down pipe and gutter brackets, also probably date to the original construction phase. Internally, the iron stairs appear to belong to the initial phase.

4.1.2 The main visible alterations to the building include the blocking of the wide doorway on the north-facing elevation; alterations to Rooms *1* and *1a* including the insertion of the plasterboard partition wall; the laying of the floor tiles; the insertion of the suspended ceiling; the blocking of the fireplace in Room *1a* and the installation of the kitchen and work units. The workbench and lockers in Room *2* have also been installed later. The WC in Room *2* may have been added at in a later phase but prior to most of the other alterations.

4.1.3 The internal appearance of Rooms *2* and *3* probably remains largely unchanged with the glazed bricks and roof structure being unaltered. The fireplace in Room *3* is obviously part of the original fabric and may have once housed a stove or small range due to its shallow depth. There is no evidence of soot-blackening suggestive of an open fire. The fireplace in Room *1a* was probably of similar appearance. Unfortunately, the roof space of Room *1* could not be inspected at the time of the survey.

4.1.4 The building has remained largely structurally intact since its construction with visible evidence only for minor alterations and changes. It is a good surviving example of an early-twentieth century municipal building.

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6. ILLUSTRATIONS

6.1 FIGURES

Figure 1: Site location

Figure 2: Upper floor of the Admin Building

Figure 3: Lower floor of the Admin Building

Figure 4: Long section through the Admin Building

6.2 PLATES

Plate 1: General view of the admin building facing south-west

Plate 2: General view of the admin building facing north-west

Plate 3: General view of Room 2 facing north-west

Plate 4: The north-facing elevation facing south

Plate 5: The south-facing elevation facing north

Plate 6: View of the flight of steps leading to the west part of the south-facing elevation

Plate 7: Detail view of the hopper and decorative brackets on the west side of the south-facing elevation

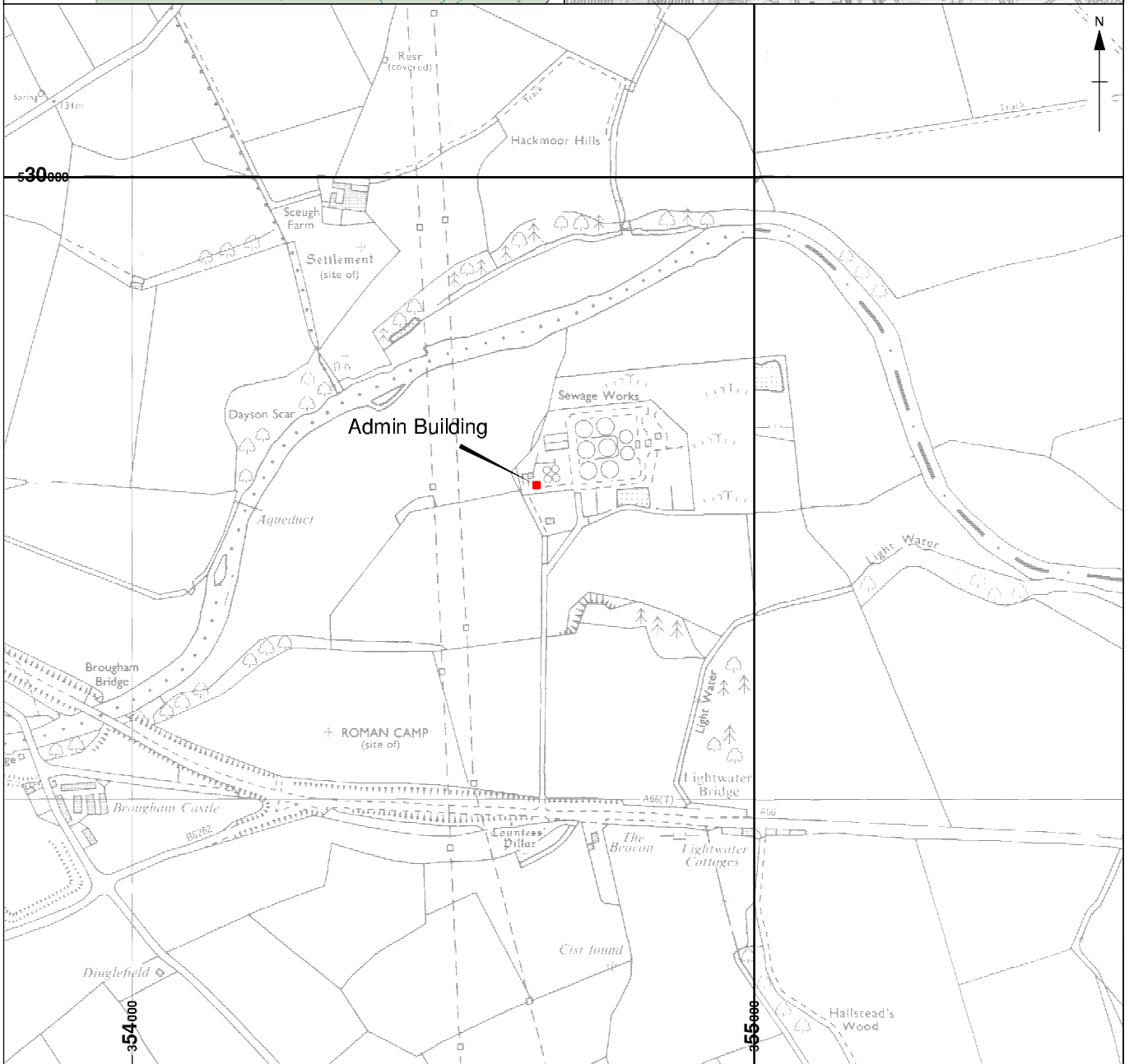
Plate 8: Detail view of a wrought iron scroll attached to the cast iron gutter on the west-side of the south-facing elevation.

Plate 9: General appearance of the staircase.

Plate 10: General view of Room 3 facing south-east

Plate 11: View of the fireplace in Room 3

Plate 12: The hearth of the fireplace in Room 3



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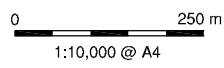
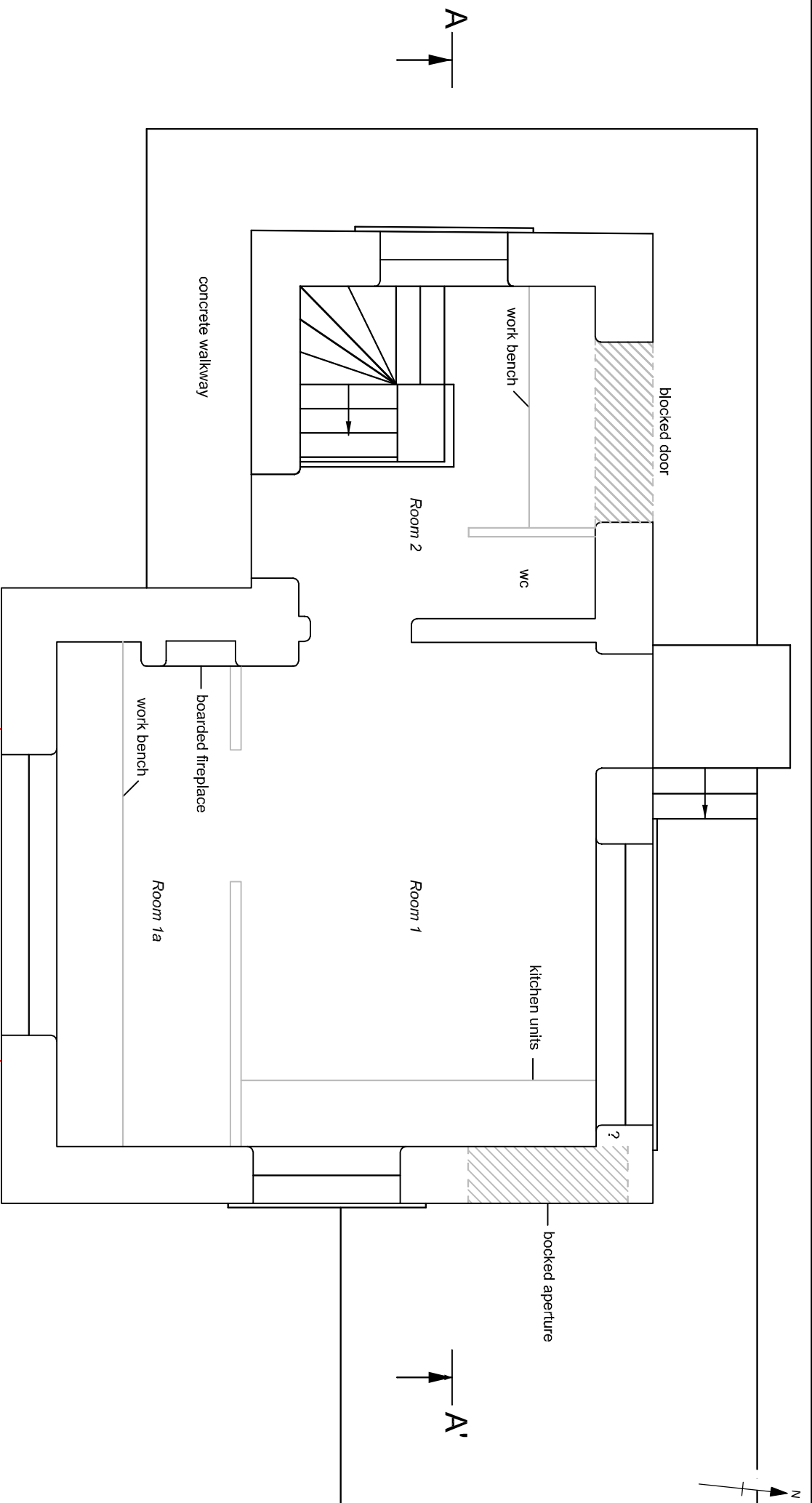


Figure 1: Site location

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-  Principal Fabric
-  Later fabric
-  ? Unknown layout
-  Blocking
-  Blocking
-  A-A' Section line

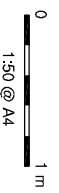
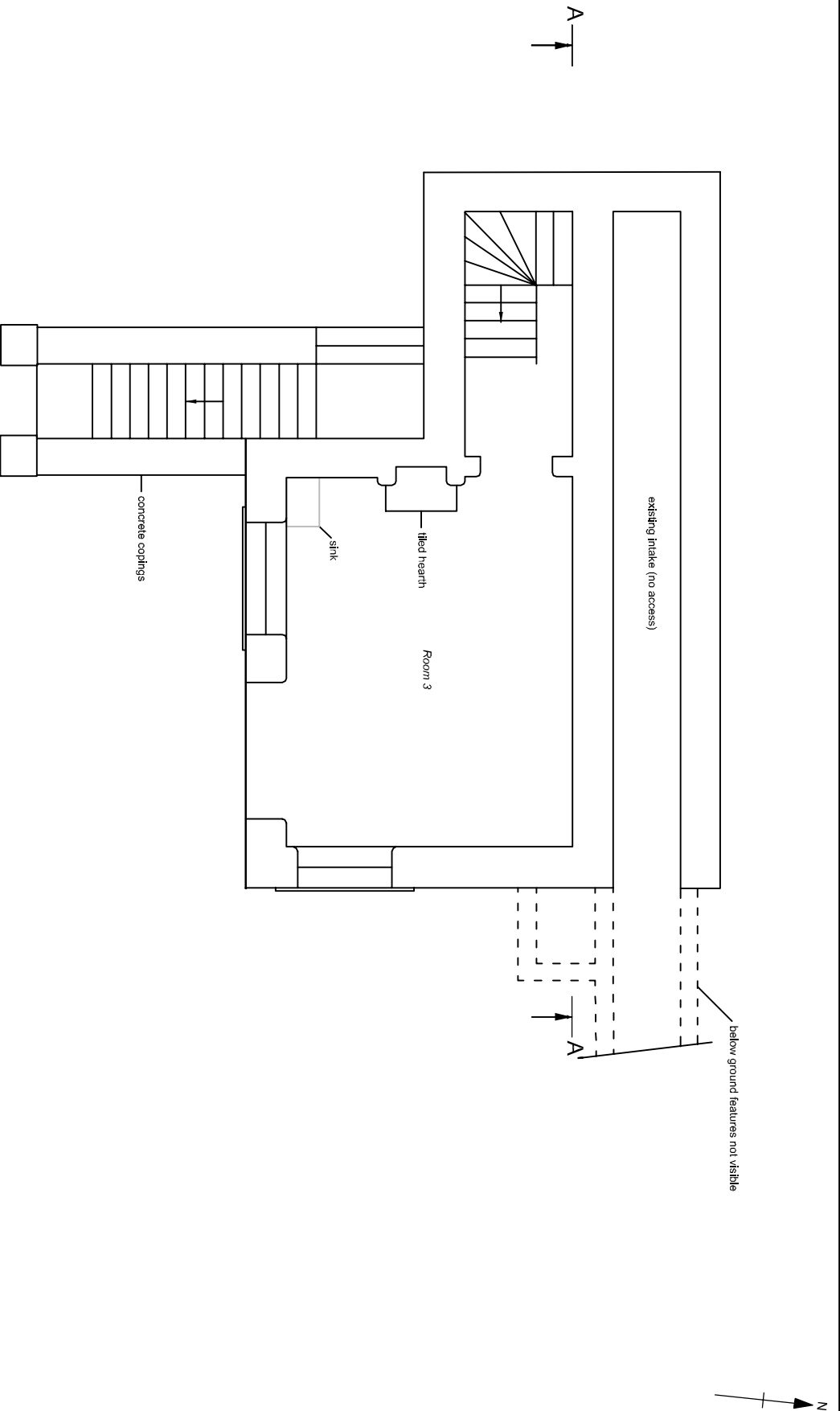


Figure 2: Upper floor of the Admin Building








-  Principal Fabric
-  Below ground
-  Later fabric
-  Section line
-  Unknown layout



Figure 3: Lower floor of the Admin Building

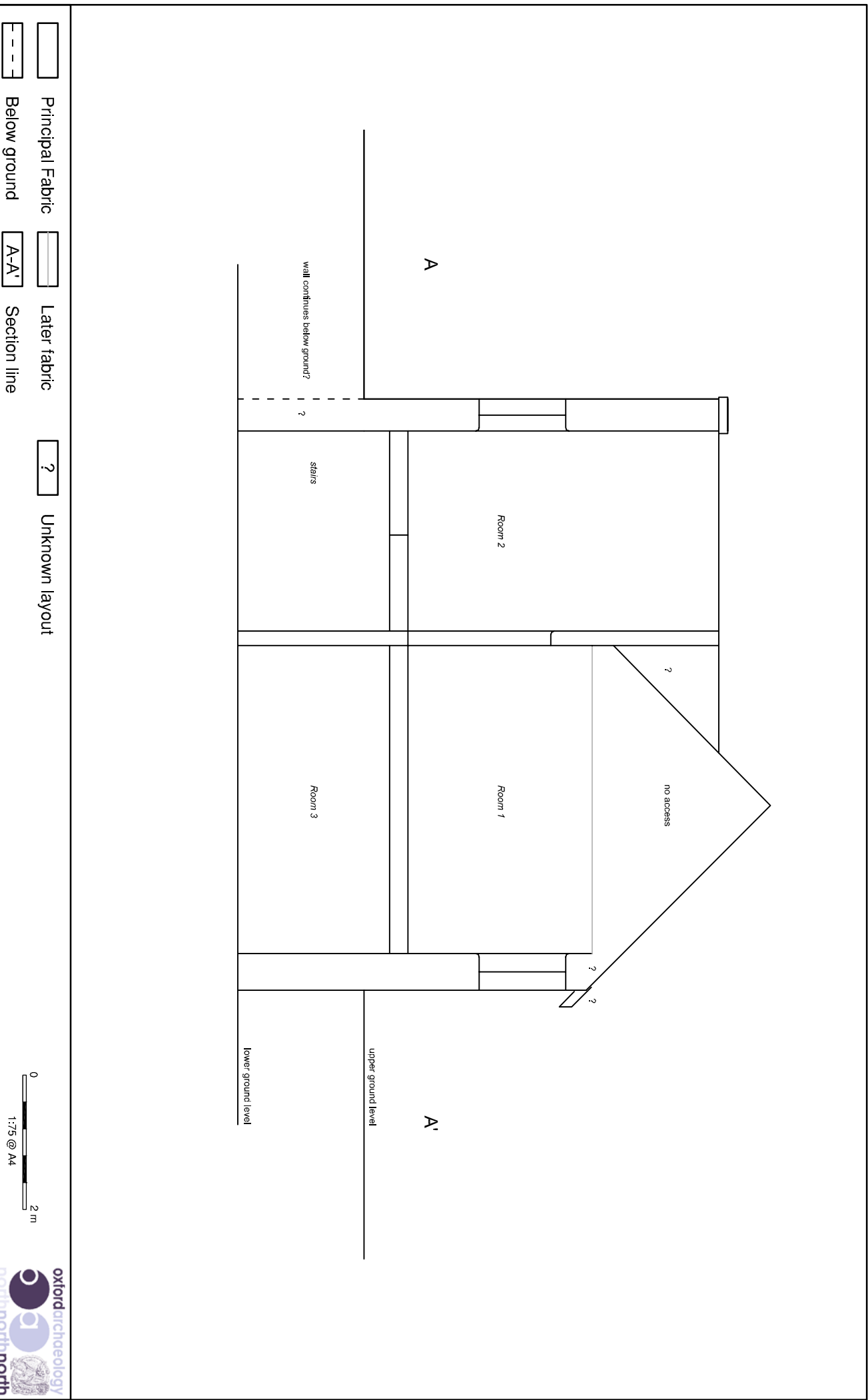


Figure 4: Long section through the Admin Building